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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,548	01/21/2004	Steven Richard Oriani	DW0085USNA	2854
24199	7590	07/22/2004	EXAMINER	
DUPONT DOW ELASTOMERS, LLC PATENT RECORDS CENTER 4417 LANCASTER PIKE BARLEY MILL PLAZA 25 WILMINGTON, DE 19805			HU, HENRY S	
			ART UNIT	PAPER NUMBER
			1713	
DATE MAILED: 07/22/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/761,548	Applicant(s) ORIANI ET AL.	
	Examiner Henry S. Hu	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. **Claims 1-7 are pending** now. An action follows.

Specification

2. The disclosure is objected to because of the following informalities:

On **page 9** at line 14, recitation of “a polycaprolactone” may be changed to “a polycaprolactone diol” as mentioned on page 10 at line 15 useful as an interfacial agent.

Appropriate correction may be needed.

Claim Objections

3. Claim 7 is objected to because of the following informalities:

On **Claim 7** at lines 2-3, phrase of “the group consisting of stearic acid, zinc stearates, calcium stearates, magnesium stearates,” is improper. A change to “the group consisting of stearic acid, zinc stearate, calcium stearate, magnesium stearate,” May be needed according to traditional wording for the name of a chemical. Please refer to page 8 at lines 14-16 for correct names.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The limitation of parent **Claim 1** of the present invention relates to **a process aid masterbatch composition** comprising: (A) 0.05-25 wt% of **a fluoropolymer**; (B) 0.2-10 wt% of **an organic soap** selected from the group consisting of **carboxylic acids and salts, hydrocarbon sulfates and salts**; (C) at least 5 wt% of **mineral particulate**; and (D) **a non-fluorinated melt processable polymer**. See other limitations of dependent **Claims 2-7**.

6. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Priester et al. (US 5,707,569).

Regarding the limitation of parent **Claim 1**, Priester et al. disclose the preparation of a polymer processing aid composition comprising (A) **a fluoropolymer** having units of vinylidene fluoride, tetrafluoroethylene, hexafluoropropylene and the like (column 2, line 62- column 3, line 13), (B) **a thermoplastic hydrocarbon non-fluorinated polymer** including polyolefin such as high-density polyethylene or linear low-density ethylene copolymer and the like (column 4, line 47 – column 5, line 11; column 10, line 65-67), (C) a salt of carboxylic acid (column 2, line 35-

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39), and (D) some conventional fillers including pigment, antiblocking agent, antioxidants and the like (column 2, line 42-45). With respect to prepare it as a masterbatch, Priester et al. further disclose fluoropolymers are known to be useful as processing aids in the form of **masterbatch** when used in low concentration in other polymers (column 1, line 9-11; column 10, line 65-66).

7. Regarding **Claims 2 and 3**, various fluoropolymers including **fluoroelastomer and fluoroplastic** are included (column 2, line 62 – column 3, line 13).

Regarding **Claim 4**, a thermoplastic hydrocarbon non-fluorinated polymer including polyolefin such as **high-density polyethylene or linear low-density ethylene copolymer** and the like can be used (column 4, line 47 – column 5, line 11; column 10, line 65-67).

Regarding **Claim 5**, various types of compounds such as the class of **carboxylic acids** can be included in the composition (column 2, line 35-55).

Regarding **Claims 6 and 7**, the claimed **calcium stearate and zinc stearate** useful as interfering additives are included (column 2, line 49-50).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woods (US 6,734,252 B1) in view of Priester et al. (US 5,707,569).

Regarding the limitation of parent **Claim 1**, **Woods** discloses the preparation of a **polymer processing aid masterbatch composition** comprising: (A) a **fluorothermoplastic polymer** having units of vinylidene fluoride (abstract, line 1-8; column 10, line 62 – column 11, line 16; particularly see column 7, line 3 and 8-9; column 8, line 23; column 9, line 14 and 25 for the use as **masterbatch**), (B) a **thermoplastic hydrocarbon non-fluorinated polymer** including polyamide, polyimide, polyurethane, polyolefin and the like (column 3, line 40-65), (C) a salt of carboxylic acid-containing polymer, and (D) some conventional fillers including pigment, antiblocking agent, antioxidants and the like (column 4, line 9-20). In an alternate

way, Woods further discloses non-fluorinated olefin monomer(s) used in units of component (B) may be included in component (A) as comonomer(s) (abstract, line 9-10; column 11, line 47-50).

10. Although **Woods has used a salt of carboxylic acid-containing polymer as component (C)**, the reference is silent about specifically using an organic soap such as the claimed aliphatic C₆₋₃₄ carboxylic acids, sulfates and their salts. **Priester et al.** teach the claimed **calcium stearate and zinc stearate** useful as interfering additives are included with a mixture of fluoropolymer, polyolefin and some conventional fillers (column 2, line 49-50), the advantage is such a composition can be useful as a processing aid system for polyolefins (column 1, line 9-14; title).

In light of the fact that Woods and Priester, both are preparing processing aid composition useful for polyolefins by using fundamentally the same components to be mixed with a **“salt of carboxylic acid”, which is in the form of polymer or small organic compound**. Therefore, one having ordinary skill in the art would find it obvious to modify Woods's polymer composition by **replacing the salt of carboxylic acid-containing polymer with calcium stearate or zinc stearate** as taught by Priester based on functional equivalence and interchangeability. By doing so, one would expect to succeed. Additionally, a salt of small organic compound would be more effective than the polymeric analogue in terms of the ratio between molecular weight to number of functional groups. A better and high efficient composition can be thereby obtained.

11. Regarding **Claim 2, a fluorothermoplastic polymer** having units of vinylidene fluoride (abstract, line 1-8; column 10, line 62 – column 11, line 16).

Regarding **Claim 3**, Priester et al. disclose that various fluoropolymers including **fluoroelastomer and fluoroplastic** are included (column 4, line 46 – column 5, line 65).

Regarding **Claim 4**, both Woods and Priester have included a thermoplastic hydrocarbon non-fluorinated polymer including polyolefin such as **high-density polyethylene or linear low-density ethylene copolymer** and the like can be used (see column 4, line 47 – column 5, line 11; column 10, line 65-67 for Priester), (see column 3, line 40-47; column 4, line 28-32; column 1, line 34-37 for Woods).

Regarding **Claim 5**, Priester et al. disclose that various types of compounds such as the class of **carboxylic acids** can be included in the composition (column 2, line 35-55).

Regarding **Claims 6 and 7**, Priester et al. disclose that the claimed **calcium stearate and zinc stearate** useful as interfering additives are included as discussed in the rejection of Claim 1 (column 2, line 49-50).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a process aid masterbatch composition comprising a fluoropolymer; an organic soap from derivatives of carboxylic acids and hydrocarbon sulfates, mineral particulate and a non-fluorinated melt processable polymer:

US Patent No. 5,344,737 to Berkes et al. discloses the preparation of a polywax toner composition comprising a resin, pigment, wax and a component of poly(oxyalkylene)polymer (abstract, line 1-8). Poly(oxyalkylene)polymer, useful as an interfacial agent, is included to toners comprised of polyester and wax (column 4, line 56-59). No fluoropolymers are included. Additionally, the composition is not for processing aid or in the form of masterbatch.

13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

July 14, 2004



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